

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
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 DANIEL MATTER, et al.) Group Art Unit: Unassigned
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 Application No.: Unassigned) Examiner: Unassigned
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 Filed: February 13, 2001)
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 For: WHEEL COUNTER MECHANISM)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-captioned patent application, it is requested that
the following amendments be entered.

IN THE CLAIMS:

Please replace Claims 1, 2 and 4-10 as follows.

1. (Amended) An apparatus for capacitively determining a position of a counter
wheel, where fixed electrodes are arranged at a distance from the counter wheel, and the
counter wheel has means for changing a capacitance on the basis of position, characterized
in that the means for changing the capacitance on the basis of position are a sequence of
measurement electrodes extending over the circumference of the counter wheel, and
electrically nonconductive sections arranged between said measurement electrodes.

2. (Amended) The apparatus as claimed in claim 1, characterized in that the fixed electrodes are arranged along the circumference of the counter wheel.

4. (Amended) The apparatus as claimed in claim 1, characterized in that the counter wheel has a body made of an electrically conductive material having recesses which are distributed over the circumference and contain electrically nonconductive inserts.

5. (Amended) The apparatus as claimed in claim 1, characterized in that the fixed electrodes are combined in pairs, in that all the measurement electrodes on the counter wheel are of the same length and in that each pair is of a common length which corresponds to the length of the measurement electrodes on the counter wheel.

6. (Amended) The apparatus as claimed in claim 5, characterized in that each pair of electrodes comprises a transmitter electrode and a receiver electrode, with adjacent electrodes in two adjacent pairs being of the same type.

7. (Amended) The apparatus as claimed in claim 1, characterized in that an opposing electrode is provided which extends along at least half the circumference of the counter wheel at a distance therefrom.

8. (Amended) The apparatus as claimed in claim 5, characterized in that four fixed electrodes or four electrode pairs are provided.

9. (Amended) The apparatus as claimed in claim 1, characterized in that the distance between the measurement electrodes and the fixed electrodes, which are respectively opposite them, according to the position of the counter wheel, is at least approximately the same.

10. (Amended) The apparatus as claimed in claim 5, characterized in that the sequence distributed over the circumference is implemented as shown in figure 3.

REMARKS

By way of the foregoing amendments to the claims, Claims 1, 2 and 4-10 have been amended to delete the multiple dependencies and reference numerals. These changes have been made in accordance with 37 C.F.R. § 1.121 as amended on November 7, 2000. Marked-up versions of Claims 1, 2 and 4-10 indicating the changes accompany this Preliminary Amendment.

Early and favorable consideration with respect to this application is respectfully requested.

Should any questions arise in connection with this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,
BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: Robert S. Swecker
Robert S. Swecker
Registration No. 19,885

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: February 13, 2001

703 836-6620 1404

Attachment to Preliminary Amendment dated February 13, 2001

Marked-up Claims 1, 2 and 4-10

1. (Amended) An apparatus for capacitively determining a position of a counter wheel [(1)], where fixed electrodes [(3, 3')] are arranged at a distance from the counter wheel [(1)], and the counter wheel [(1)] has means for changing a capacitance on the basis of position, characterized in that

the means for changing the capacitance on the basis of position are a sequence of measurement electrodes [(12, 12', 12'')] extending over the circumference of the counter wheel [(1)], and electrically nonconductive sections [(13, 13')] arranged between said measurement electrodes.

2. (Amended) The apparatus as claimed in claim 1, characterized in that the fixed electrodes [(3, 3')] are arranged along the circumference of the counter wheel [(1)].

4. (Amended) The apparatus as claimed in claim 1, characterized in that the counter wheel [(1)] has a body [(10)] made of an electrically conductive material having recesses [(11)] which are distributed over the circumference and contain electrically nonconductive inserts [(14)].

5. (Amended) The apparatus as claimed in claim 1, characterized in that the fixed electrodes [(30, 31)] are combined in pairs, in that all the measurement electrodes [(12)] on the counter wheel [(1)] are of the same length and in that each pair is of a common length which corresponds to the length of the measurement electrodes [(12)] on the counter wheel.

Attachment to Preliminary Amendment dated February 13, 2001

Marked-up Claims 1, 2 and 4-10

6. (Amended) The apparatus as claimed in claim 5, characterized in that each pair of electrodes comprises a transmitter electrode and a receiver electrode [(30, 31)], with adjacent electrodes in two adjacent pairs being of the same type.

7. (Amended) The apparatus as claimed in claim 1, characterized in that an opposing electrode [(4)] is provided which extends along at least half the circumference of the counter wheel [(1)] at a distance therefrom.

8. (Amended) The apparatus as claimed in [one of claims] claim 5 [or 7], characterized in that four fixed electrodes [(3')] or four electrode pairs [(3)] are provided.

9. (Amended) The apparatus as claimed in claim 1, characterized in that the distance between the measurement electrodes [(12, 12', 12'')] and the fixed electrodes [(3, 3')], which are respectively opposite them, according to the position of the counter wheel, is at least approximately the same.

10. (Amended) The apparatus as claimed in [claims] claim 5 [and 7], characterized in that the sequence distributed over the circumference is implemented as shown in figure 3.